Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection

Compliance and Enforcement Performance Report Fiscal Year 2001

July 2002

INTRODUCTION

This report provides an overview of the Massachusetts Department of Environmental Protection's (DEP) compliance and enforcement performance for Fiscal Year (FY) 2001. Its content reflects the transition described in the FY00 report of evaluating DEP's performance in terms of its effect on the regulated community and the environment rather than exclusively on an accounting of actions performed or penalty dollars assessed. The selection of performance measures was the result of dialogues with representatives of the environmental and business community on the types of information that will be most effective in evaluating the agency's accomplishments, identifying areas where additional or alternative effort is required and communicating the benefits derived from enforcement to the public.

At the stakeholder meeting held last June, entitled DEPartners Day, participants nominated a mix of alternative measures of success the Department should consider in evaluating its performance, including compliance rates, pollutants reduced, focus on worst violators and measurement of response to warning letters. These categories reflect a different aspect of performance measurement. Compliance rates looks at the relationship between Department actions and the regulated community's compliance conduct. The amount of pollutants reduced quantifies the reduction in contaminants released without attempting to measure the impact of that reduction on the ambient environment. Response to warning letters and focusing on the worse violators examines the targeting decisions and enforcement tools the Department employs.

The first section of the report documents the extent to which the Department is able to generate information in those categories. However, the information available for traditional output accounting is still significantly more comprehensive than performance standards that measure the specific results or outcomes from compliance and enforcement actions. Recommended measurement categories such as the types of violations by sector and environmental quality improvements are not addressed in the report. This imbalance is largely due to data collection and data management systems improvements necessary to more comprehensively evaluate both facility-specific and ambient environmental information. The Department is making progress in all these arenas and intends to accelerate the pace of development over the next several years. As the Department becomes more sophisticated in evaluating the relationship between its activities and the state of the environment, the nature and scope of the measurement indicators in these reports will better reflect the agency's successes, challenges and direction.

The report's second section will focus on the more traditional enforcement output accounting. These activity measures do provide indicators of the level of Department's inspections and compliance monitoring presence, and what the targeting choices are yielding in terms of lower and higher level enforcement actions. These figures also help express the contribution compliance and enforcement actions make in deterring future violations and recovering the economic benefit of non-compliance. In prior reports, the

analysis was limited to a comparison between the last two years of data. In response to stakeholder input on the limited value of that narrow comparison, this report will present enforcement activity information covering a five-year period.

In addition to statistical information and analysis, the report highlights initiatives that exemplify the scope of the Department's compliance and enforcement objectives. Strategic compliance and enforcement supplements baseline compliance and enforcement activities by focusing particular attention on a subset of the regulated universe or on a resource area of special concern. Such emphasis can be triggered by a number of factors including:

- analysis of environmental monitoring data;
- need to ensure compliance with a new regulation;
- patterns of complaints from the public;
- priority areas of concern identified by the Administration; and
- patterns of noncompliance by a particular sector.

Together, baseline compliance and enforcement activities, combined with strategic compliance and enforcement initiatives, produce a broad-based enforcement presence across all environmental areas and a concentrated focus on our most important problems. As a regulatory agency, with a broad range of responsibilities, an active and diverse enforcement program is key to maintaining a desirable level of deterrence against non-compliance. Fair and consistent enforcement responses by DEP to important compliance problems can be effective in changing the behavior of a wide range of DEP's regulated community. This "deterrence effect" is a fundamental benefit of maintaining a vigorous enforcement profile and communicating the consequences of non-compliance.

The report also profiles case specific outcomes that document the real-world application of enforcement strategies and priorities. The profiles are also intended to acknowledge that a single case may be insignificant when viewed from a purely accounting perspective, but may have involved a major commitment of resources on the Department's and regulated entity's part in order to transform its operations and the resulting impact on the environment.

MEASURING THE SUCCESS OF COMPLIANCE AND ENFORCEMENT ACTIONS

In last year's report, the Department introduced its intention to transition from reliance solely on activity outputs to focus on the conduct of the regulated community and the state of environmental quality, as the key performance measures of its compliance and enforcement program. Several considerations must be taken into account in shifting from reliance on activity outputs to measures intended to evaluate the effects of specific enforcement initiatives or the overall impact of the Department's compliance and enforcement operations. Changes in the regulated community's actions or improvements in the ambient environment are more often the result of the cumulative effect of different but complimentary Department functions rather than caused by compliance and enforcement actions alone. Permitting, technical or financial assistance, revisions to regulatory standards or compliance and enforcement may play a leading or subsidiary role in achieving a particular objective based on the nature of the problem being worked on.

For example, reductions in mercury emissions from municipal waste combustion facilities can be linked to several different Department actions: changes in regulations that lowered emission limits and required the development of plans to reduce mercury in waste loads, permitting actions at individual facilities to install improved air pollution control equipment, and compliance monitoring of emissions data and enforcement actions taken where emission violations were detected. Thus, there is a connection between emission reductions and compliance and enforcement actions, but it is only one of the tools being applied to solve the non-compliance problem or achieve the environmental quality goal.

Tallying up the number of inspections, enforcement actions and penalties (output accounting) has the advantage of relative simplicity in acquiring data and communicating its significance in comparison to the more complex efforts required to measure and explain the compliance status of a regulated sector or progress on attaining healthy air and clean water. Reliance on compliance measures to analyze environmental performance and success requires that DEP address a mixture of data and policy considerations.

In evaluating and communicating the relationship between the Department's actions and the extent of non-compliance or the status of the environment, the Department needs to consider: the availability of monitoring data, how significant non-compliance is measured for specific sectors or media, whether the compliance rate is based on a representative sample of the regulated universe or a different subset and the passage of time between the inspection or monitoring report review and the enforcement action. The shift from reliance on outputs to outcomes to measure performance will require DEP to improve our data collection systems, establish statistically valid measurement procedures and maintain a dialogue with our constituents on which measures provide the most meaningful performance assessment information.

The first conversation in that dialogue took place last June at DEPartners Day, at a series of workshops with representatives from the business, consulting, municipal and environmental community who regularly interact with the Department. The compliance and enforcement workgroup proposed a number of outcome-oriented performance measures for the Department to adopt, including: compliance rates, pollutants reduced, focus on worst or multiple offenders, violators' reaction to warning letters, and the number of environmental management systems implemented through enforcement actions.

As noted above, measuring the performance of the Department or the status of a sector of the regulated community by the percentage of facilities or sites that are in compliance with regulatory requirements (compliance rate) presents multiple challenges which the Department intends to address over the next several years. Presently, there are several programs, discussed below, that have developed statistical analysis or other methodologies that provide compliance information on specific sectors or particular regulatory requirements within a sector.

Compliance Rates

Environmental Results Program

The Environmental Results Program (ERP), managed by the Bureau of Waste Prevention, has a compliance certification component under which dry cleaners, photo processors and printers annually audit their facilities in relation to "Environmental Performance Business Indicators (EPBI), a set of regulatory compliance criteria and good environmental practices, such as pollution prevention activities, that go beyond compliance. The facilities submit a certified report on whether they are in compliance with these EPBIs. Through a statistically significant sample of random inspections of facilities, the Department can determine representative EPBI values and compliance rates for a whole sector or for a subset of EPBI. For example, the Bureau of Waste Prevention conducted 42 inspections of photo processors and a laboratory analysis at 18 locations of their industrial wastewater discharge. Approximately 75% of the facilities were in compliance with the discharge limit for silver. In the printing sector, however, only 50% of the operations were in compliance with the EPBIs that relate to operations and maintenance activities or record keeping. This type of information allows the agency to identify specific areas of compliance deficiency and then determine the appropriate "tool" (e.g. technical assistance, regulatory revision, increased enforcement) to apply to improve the sector's performance.

Drinking Water Suppliers

Over the past several years, the Bureau of Resource Protection has developed and implemented enforcement strategies designed to improve compliance by public water suppliers. Of particular note is the success in reducing non-compliance by Transient Non-Community systems (TNC). TNC systems are typically small businesses, such as

restaurants or campgrounds that provide drinking water to their customers. Since water supply is not their primary business, most TNCs do not think of themselves as public water systems. This may account for the fact that TNCs tend to have the highest level of noncompliance in the state. As such, the drinking water program uses its TNC program to gauge the overall effectiveness of its compliance and enforcement efforts.

The implementation of the Drinking Water Comprehensive Compliance Strategy (CCS) produced a steady decrease in the number of TNC violations. Monitoring and reporting violations fell by nearly 70% from 1997 through 2001, commencing with the 1998 debut of the CCS enforcement strategy. In FY 01, 81% of the TNCs met all monitoring and reporting requirements. This represents a decrease in the number of violations from nearly 700 violations in 1998 to only 240 in 2001. Other indicators of the compliance performance of 1,595 public drinking water systems include:

- No outbreak of water-borne disease
- 94 % reported no maximum contaminant level (MCL) violations
- 99% of the 175 systems with access to surface water sources met the Surface Water Treatment Rule (97% in full compliance, 3% operating on compliance agreements)

Groundwater Discharge Permits

A similar comprehensive compliance strategy applied to holders of groundwater discharge permits has also yielded noticeable improvements in compliance. As Table 1 below shows, despite an increase in the number of permits and number of compliance monitoring reviews between 1998 and 2001, the non-compliance rate for significant violations decreased from 86% to 39%. Significant violators received a Notice of Non-Compliance. As discussed further in the Response to Warning Letters section below, a substantial number of permittees cured their violations in response to receiving an NON.

Table 1 Comparison of Number of Significant Violations 1998-2001

	1998	2001
Number of Permittees	140	160
Number of Compliance Monitoring Actions	1600	1900
Number of Permittees with Significant Violations	120	62
Percentage of Permittees with Significant Violations	86%	39%

National Pollution Discharge Elimination System Permits

The number of facilities with permits to discharge wastewater into surface waters (NPDES) that are inspected annually varies based upon which of the watershed basins are conducting compliance reviews as part of their five-year Basin Cycle. In FY01, 68 major and 36 minor facilities were inspected and 23% were determined to have significant

violations, as reported by the Environmental Protection Agency (EPA), a 5% increase over the FY00 rate. The reason for the rise in Significant Non-Compliance (SNC) cases during this period is not clearly known, but severe climatic conditions were noted by operators as causing problems with maintaining process efficiencies normally required to remove biological oxygen demand (BOD), total suspended solids (TSS) and metals to below permitted levels. Discounting the second quarter winter data for 2001, the percentage of noncompliance was essentially the same, 17% versus 19%, respectively, for the two years.

Hazardous Waste Clean Up

Two measures of whether hazardous waste sites are in compliance with the Massachusetts Contingency Plan (MCP), which governs the assessment and remediation of sites under M.G.L c. 21E, are whether progress in site clean up are timely as evidenced by submissions of required documentation, and whether the response actions taken meet the performance standards established by the regulations to ensure the site does not present a significant risk to the public or the environment. Of the approximately 7,000 active sites in the system as of July 2001, 47 percent are not in compliance with regulatory schedules for Tier Classification, Phase I-V submittals or completion of Response Action Outcomes (RAOs).

The Bureau of Waste Site Clean-Up has initiated a non-responder enforcement strategy to motivate responsible parties to perform response actions and comply with the MCP's regulatory schedules, which is having a positive effect on the compliance rate. In FY01, 3000 new sites came into the system and approximately 75% complied with the one-year deadline for Tier Classification or completion of response actions. After issuance of a NON, the non-compliance rate dropped to 13%. This had the effect of holding the net non-compliance rate static despite the influx of 3000 new sites (default Tier IB sites remain at about 1500). A 20% increase in the compliance rate was also achieved for Phase submittals and RAOs for the universe of Tier Classified sites of July 2000. The Department audits the quality of the work performed by the private sector under the oversight of Licensed Site Professionals (LSPs) to ensure it meets the MCP's standards. In FY01, 332 LSP Opinions (mainly RAOs) for disposal sites were comprehensively audited: 50% of the audited LSP Opinions were determined to be in initial compliance with the performance standards established by the regulations, 9% were determined to be invalid and required retraction, 41% required additional information or field work to support the LSP Opinion.

Pollutants Reduced and Environmental Management Systems Adopted

Enforcement actions can provide a focused opportunity for the Department and the violator to evaluate a facility's production process or waste management procedures. These evaluations can determine if changes in material inputs, technology or improvements in operation and maintenance procedures that eliminate or reduce the use or release of toxics can be achieved as part of or a supplement to returning to compliance.

Examples enforcement-driven pollution prevention has included switching to lower sulfur fuel, substituting water-based lubricants and cleaners for volatile chemical based products and treating and reusing wastewater. In FY01, the Bureau of Waste Prevention documented over 60 pollution prevention-related actions derived from enforcement actions, yielding reductions of over 40 tons of criteria pollutants (NOx, SOx), volatile organic compounds and hazardous air pollutants.

An environmental management system (EMS) is a set of ongoing management procedures that allows an organization systematically to analyze, control and reduce the environmental impact of its activities, products and services. A well-designed and consistently applied EMS will institutionalize the procedures and corporate mindset essential to achieve and maintain regulatory compliance and promote pollution prevention. In January 2001, the Department adopted an enforcement policy that provides penalty mitigation for violators who agree to enter into a consent order that compels the violator to develop and implement an EMS. In FY01, 14 EMSs were initiated through enforcement actions.

Response to Warning Letters and NONs

The Administrative Penalty Statute requires that, except under certain circumstances, the Department provide notification of the non-compliance and an opportunity to cure before a penalty can be assessed. These Notices of Non-Compliance (NON) are categorized as lower level enforcement (LLE). Over the last five years, on average, 2600 NONs were issued as compared to 479 Higher Level Enforcement (HLE) actions or referrals. This four-fifths difference is largely a reflection of the effectiveness of NONs in achieving compliance without investment of the additional resources HLE consumes.

Environmental Results Program

Table 2 below demonstrates how the Environmental Results Program used the prompt and consistent threat of enforcement, in combination with technical assistance, to achieve high rates of compliance in annual performance certification from three sectors. The issuance of an NON-generated a substantial return to compliance. When this was followed by the penalty assessment that could be avoided by immediate filing of the certification, only a handful of penalties required collection.

Table 2. Program to Date Activities in ERP Certification Enforcement

Sector	NONs Issued	Cases Resolved	RPANs Issued	Cases Resolved	Sent to Collection
Photo Processors	39	32	7	6	1
Dry Cleaners	121	101	20	12	8
Printers	146	128	18	6	12

As a general rule, the Department does not rely on warning letters because, unlike an NON, they don't have legal force and effect and therefore are usually not an appropriate response to a violation. However, in those limited instances where there is a large regulated universe and the initial non-compliant acts do not cause environmental damage, warning letters that precede the issuance of an NON have been successfully applied to achieve compliance. For example, the use of 70 Notices of Deficiency (NODs) to obtain the submission of waste ban plans, under the solid waste regulations, reduced the number of NONs required to 5, which later resulted in only 1 HLE action.

Groundwater Discharge Permits

A similar success was achieved with the comprehensive compliance strategy adopted to motivate improved compliance with groundwater discharge permit by using NODs to address minor reporting, monitoring or operating problems. For example, the strategy provided an opportunity for infrequent violations to trigger only a NOD if minor exceedances of effluent limits were promptly brought back into compliance as evidenced by monthly monitoring, but failure to return to compliance or submit monitoring reports immediately triggered NONs and thereafter higher level enforcement. Between July 2000 and June 2001, the number of facilities with effluent violations requiring NODs each month fell by 50%. During the year, 163 permitted facilities received a total of 136 NODs, but only 20% subsequently required an NON, and all but four facilities responded to the NON, precluding the need for higher level enforcement.

The examples discussed above are the leading edge of the Department's commitment to develop performance outcome and environmental indicators that will serve as compliance and enforcement planning, evaluation and communication tools. In the area of compliance measures, DEP intends to expand the collection of compliance information, conduct statistical analysis and publish compliance rates or compliance related information for those facilities, sectors or program components where there is sufficient data to draw meaningful conclusions on performance. As our data management and environmental monitoring capabilities improve and our methodologies are refined, more robust connections between compliance and enforcement activities, pollution prevention and the environmental quality of the air, water and land will be demonstrated. But as noted above, although compliance and enforcement is the keystone of our regulatory program, it must be integrated into the Department's other functions to achieve comprehensive solutions to the complex environmental challenges the Commonwealth faces.

ACTIVITY OUTPUTS

This section of the report provides an overview accounting of compliance and enforcement activities. The FY2000 report focused primarily on the changes in outputs between FY00 and FY99. In response to comments received on that report, the FY01 report's scope expands to include five years of data across several key performance areas including:

1. Total number of inspections conducted;
2. Number of Lower Level Enforcement (LLE) actions taken;
3. Number of Higher Level Enforcement (HLE) actions taken;
4. Monetary amount of administrative penalties assessed and collected;
5. Monetary amount of environmental alternatives to penalties;
6. Staff resources committed to compliance and enforcement activities, measured as "Full Time Equivalents" (FTEs).

Inspections

The physical visit to review a regulated site/facility compliance status, i.e. the traditional inspection, remains the mainstay of DEP's compliance assessment program. Inspections are conducted for a variety of reasons, such as: planned as part of a program's standard assessment of a sector, program specific follow-up at a facility that has been the subject of a prior multi-media inspection, ensuring compliance with performance milestones established in administrative orders or an investigation in response to citizen complaints. But inspections represent just a portion of the compliance activities that DEP conducts that may trigger an enforcement action. For example, the Department reviews thousands of compliance monitoring reports to determine if facilities' emissions meet established permit or regulatory limits. Failure to file the reports or exceedance of those limits may result in enforcement actions without a field inspection. In addition to administrative inspections, the Environmental Strike Force also conducts nearly 200 investigations to determine if the facts of a violation give rise to a criminal prosecution by the Office of the Attorney General.

Lower and Higher Level Enforcement

Lower Level Enforcement (LLE) actions include a variety of Notices of Non-Compliance that notify the violator that unless it takes specific actions to return to compliance the Department will commence Higher Level Enforcement (HLE). HLE includes a range of separate or combined enforcement actions, including: administrative orders, penalty assessments, notices of response action under the Waste Site Cleanup program and permit and license sanctions. Certain types of HLE are referred to the U.S. Environmental Protection Agency or the Office of the Attorney General for civil or criminal prosecution. For the first time, the HLE category also includes referrals to the Licensed Site Professional Board for potential disciplinary actions against LSPs who fail to meet professional standards in the oversight of hazardous waste cleanup actions under the Massachusetts Contingency Plan. Of the HLE referrals, 11 were LSP Board referrals.

CHART A TOTAL COMPLIANCE AND ENFORCEMENT ACTIVITIES						
	FY97	**FY98**	**FY99**	**FY00**	**FY01**	**5 Yr Ave**
Compliance Inspections	8642	7608	7046	7073	7626	7599
LLE	2664	2148	2686	2649	2952	2620
HLE - Administrative Actions	348	390	453	550	466	441
HLE - Referrals	50	40	28	29	42	38

The information presented in Chart A indicates year-to-year variability in each of the indicators, without a consistent five-year trend line. Over the past three years, inspections, LLE and HLE referrals have experienced annual increases. HLE increased annually since FY 97 until the modest decline between FY00-01. Annual agency–wide variations are in the range of 10-15%. Annual agency-wide variations in these statistics are typically the function of the factors discussed below in the analysis of Bureaus' outputs, and the fact that cases which trigger HLE actions may be worked on extensively in one year, but if not fully completed by June 30th are carried forward into the following year's count.

CHART B BUREAU COMPLIANCE AND ENFORCEMENT ACTIONS						
	BWP					
	1997	**1998**	**1999**	**2000**	**2001**	**5 Yr Ave**
Inspection	5006	3542	2432	2576	2459	3203
LLE	799	592	852	862	563	734
HLE Administrative and Referrals	212	181	147	180	164	177

	BWSC					
	1997	**1998**	**1999**	**2000**	**2001**	**5 Yr Ave**
Inspection	1026	1529	1292	1277	1688	1362
LLE	480	607	693	830	1249	772
HLE Administrative and Referrals	73	58	104	132	150	103

	BRP					
	1997	**1998**	**1999**	**2000**	**2001**	**5 Yr Ave**
Inspection	2610	2523	2742	2688	3015	2716
LLE	1385	949	1141	957	1140	1114
HLE Administrative and Referrals	98	167	220	227	179	178

CHART C ENVIRONMENTAL STRIKE FORCE ACTIVITIES						
	ESF					
	1997	1998	1999	2000	2001	5 Yr Ave
Inspection/Investigation	680	531	462	492	434	520
HLE Referral	15	26	10	14	15	16

Chart B provides Department-wide output information for the three Bureaus: Waste Prevention (BWP), Waste Site Clean-Up (BWSC) and Resource Protection (BRP)[1]. As discussed in more detail in the Measures of Success section, over the past several years, each Bureau has implemented strategic compliance and enforcement strategies targeted at particular sectors of their regulated community or particular types of violations within their jurisdiction. The differences in annual LLE and HLE outputs among the Bureaus reflects a wide diversity of factors including, for example:

- Programs that are experiencing significant increases in the regulated universe (hazardous waste sites entering the clean-up process) versus programs with a stable (public water supply) or decreasing (large quantity hazardous waste generators) universe.
- Increased use of warning letters and notices of deficiency to more efficiently correct minor violations prior to the commencement of formal enforcement actions.
- Allocating a greater proportion of field staff resources to conduct compliance inspections to ensure outstanding enforcement orders are being complied with in lieu of initiating new enforcement actions.
- The maturity of the enforcement strategies. The first year or two of an enforcement initiative is likely to yield more HLE actions for the number of inspections, but as the deterrent effect of enforcement is felt, the number of repeat offenders declines, compliance rates improve and fewer HLE actions are generated.
- Regulatory and compliance policy schedules. A particular category of facilities may be subject to a permit renewal obligation within a narrow window of time. Failure to renew by a portion of that sector may generate an annual enforcement spike. Watershed basins are subject to compliance reviews on a staggered five-year cycle. The concentration of different types of permitted facilities in the particular set of basins can also have a significant effect on compliance and enforcement outputs.

The Environmental Strike Force (ESF) is a unit dedicated to investigating environmental crimes for referral to the criminal divisions of the Attorney General's Office or the EPA for enforcement. Where an investigation reveals potential non-criminal violations of environmental laws, the matters are referred to the AG's civil division or the appropriate Bureau's administrative enforcement group.

[1] Difference between the agency wide outputs and the sum of the Bureau outputs is the result of actions taken by the Wall Experiment Lab and the Environmental Strike Force not included in the Bureaus' totals.

CHART D TOTAL DEP ADMINISTRATIVE AND JUDICIAL PENALTIES						
	FY97	FY98	FY99	FY00	FY01	5 Yr Ave
DEP Total $ for Administrative Penalties	$1,716,740	$2,561,415	$1,571,298	$1,613,430	$2,671,011	$2,026,780
AG Civil	$2,183,692	$2,006,708	$1,584,262	$4,031,500	$745,000	$2,110,240
AG Ciminal	$28,750	$79,000	$1,500	$32,500	$116,000	$51,550
AG $ Totals	$2,212,442	$2,085,708	$1,585,762	$4,064,000	$861,000	$2,161,790
DEP & AG $ Totals	$3,929,182	$4,647,123	$3,157,060	$5,677,430	$3,532,011	$4,188,570
Environmental Alternatives to Penalties	$608,225	$331,925	$515,055	$534,225	$780,207	$553,930
Total Equivalent Penalty Dollars	$4,537,407	$4,979,048	$3,672,115	$6,211,655	$4,312,218	$4,742,490

As Chart D indicates, DEP's administrative penalty assessment over the past five years has fluctuated between approximately $1.6 and 2.7 million. In FY 01, although there was a modest decline in HLE actions from the prior year, there was a substantial increase in penalty dollars assessed. These annual fluctuations are the result of the variability in the amount of a small percentage of the total penalty actions with exceptional penalties rather than major shifts in the average annual amount of penalty dollars collected per action. The five-year average administrative penalty was $9,100, while the FY01 average was $11,630. The most significant difference in penalty dollars assessed between FY00 and FY01 was a single $750,000 administrative action.

A new monetary measure is being presented this year to give a more complete picture of the financial impact of enforcement actions. As an alternative or in addition to assessing a monetary penalty for non-compliance, the Department and the violator may agree that the violator will perform environmentally beneficial activities that will ensure future compliance, promote pollution prevention and resource conservation and/or provide supplemental environmental benefits to the community. The estimated value of these activities is reflected in the Environmental Alternatives to Penalties (EAP) measurement. Based on the five-year average, this category was equivalent to more than one-third of the penalties assessed. EAPs are an increasingly significant mechanism DEP uses in enforcement actions to transfer economic benefit gained from non-compliance into environmental enhancements to the affected communities.

One measure of the Department's commitment to compliance and enforcement is the allocation of its staff resources. Chart E shows that over the past five years, DEP has consistently allocated approximately 50% more staff time to compliance and enforcement than to permitting.

CHART E						
	FTE WORK YEARS					
	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	AVE 97-01
Permitting	123	120	121	126	126	123
C/E	162	164	174	187	184	174

PROBLEM SOLVING HIGHLIGHTS

Activity counts and compliance rates offer different statistical perspectives on the compliance and enforcement story. But what can get lost in the statistics is the impact of the compliance and enforcement in solving particular environmental problems. Set out below, are summaries of programmatic initiatives and enforcement cases that highlight this problem-solving relationship.

Wastewater Management and River Protection

In the Northeast Region, the quality of major urban rivers such as the Charles, the Merrimack, and the Mystic/Alewife have been historically degraded by discharges from combined sewer overflows and other pollution sources. Over the past several years, DEP, in coordination with EPA, have implemented a multifaceted strategy to eliminate or substantially reduce contaminated discharges.

In one medium size (over 50,000 population) eastern Massachusetts municipality, the Department has utilized several administrative consent orders, civil administrative penalties, stipulated penalties, technical assistance and support of State Revolving Fund loans to assure that the municipality addressed a variety of water and sewage compliance problems over a period of years. Beginning in l997, the Department used higher level enforcement tools to address sanitary sewer overflows, problems with the quantity and quality of the water supplied by the public water system, and poor operation and maintenance of the water treatment plant, its ancillary facilities and the wastewater collection system. These enforcement actions resulted in the negotiation of three consent orders: a Water Management Act Consent Order, a Drinking Water Consent Order and a Wastewater Consent Order. The Department later assessed civil administrative penalties in connection with the Wastewater Consent Order and stipulated penalties in connection with the Drinking Water Consent Order.

Over the course of several years, these enforcement efforts were combined with compliance assistance and permitting of new facilities and motivated the municipality to make major positive steps toward resolving many of its water and sewer problems. On the water supply front, the municipality's efforts included a successful water conservation program involving leak detection, water restrictions, the installation of low flow devices and improved metering; augmenting the number of its available approved wells; and the construction by the MWRA of a connection to the municipal water system for emergency use. These measures have enhanced the municipality's ability to ensure the continued delivery of safe drinking water to consumers.

Recently, the municipality has made significant progress in addressing remaining issues with water treatment sludge management and lead and copper requirements. The Department is currently reviewing the municipality's plans for new corrosion control facilities. Construction is expected to start in August 2002 and to be completed in

October 2003. The Town has obtained a permit to discharge sludge to the wastewater collection system and should be tied into the sewer system next year.

Regarding wastewater compliance problems, the municipality has made great progress in addressing the hydraulic deficiencies and excessive infiltration and inflow that caused frequent sanitary sewer overflows. Over 200 sump pumps have been removed from its sewer system and a successful annual infiltration removal program has substantially reduced the frequency and duration of overflows. Recently, the municipality completed the environmental review process for a $15,000,000 wastewater capital improvement program. Taking advantage of DEP and MWRA financial assistance programs, the municipality has completed the first stage of this capital program, has identified additional infiltration sources and is preparing a stormwater management plan, which is an essential element of managing its wastewater problems.

Wetlands

One of the Department's key resource protection objectives is that there is no net loss of wetlands. Wetlands losses occur through a variety of means including, for example, intentional filling, dredging, tree cutting and sedimentation caused by failure to construct and maintain adequate erosion storm water controls. The Department maintains a core inspection and enforcement program designed to rehabilitate impacted resources and deter future violations. In FY01, the program logged over 800 site visits, issued 28 NONs and took 25 higher-level enforcement actions.

Three cases that targeted and penalized three developers for their failure to stabilize construction sites were a 90-lot residential development in Worcester, a residential sub-division in Southborough, and the Shrewsbury High School project. In all three cases, inadequate erosion and sedimentation controls resulted in silt-laden storm water being discharged into wetlands or streams. The resources impacted included streams and lakes that have been priorities of the EOEA Watershed Teams and other local stakeholders. In all three cases, a Unilateral Administrative Order (UAO) was issued that contained requirements to discontinue construction activities and stabilize soils. Penalties in excess of $73,000 were also assessed.

Smaller Stationary Sources of Air Pollution

The state of our air quality is not just a function of the emissions from power plants and other large smokestacks. Smaller sources collectively make significant contributions of pollutants. Fugitive emissions from gasoline pumps can contribute over 9,000 tons of volatile organics without the properly operating controls required under the Stage II program. In FY01, over 100 targeted Stage II inspections were conducted and a HLE case was concluded against a major franchise that required it to perform compliance audits and implement an Environmental Management System at all of its fuel dispensers. Higher level enforcement actions were also prosecuted against 20 companies who had installed emergency, backup or other electrical power generators burning diesel fuel without Department approval that requires that the Best Available Control Technologies

be implemented to minimize emissions of criteria pollutants. Department actions also closed 10 illegal incinerators and a substantial number of improperly operating incinerators in large apartment and housing projects. Collectively, these smaller combustion sources are a significant source of air borne mercury, some of which is deposited in water and enters the food chain presenting a serious health risk to pregnant women and young children.

Illegal Urban Transfer Stations

Low income and minority residents living in or near industrialized urban areas are often subjected to a multitude of environmental stressors that their suburban and rural counterparts are able to avoid**.** One example is the concentration of solid waste transfer or processing stations in the Roxbury section of Boston. In coordination with the City of Boston, the Department conducted inspections at 13 of these operations and determined that over half required enforcement actions be taken to bring them into compliance, or to shut them down.

State Agency Compliance

Massachusetts is one of the few states in the nation that initiated and has sustained a consistent and vigorous compliance and enforcement program focused on ensuring that state agencies maintain compliance with environmental regulations. The Clean State Program commenced in 1993, and since then more than 200 million dollars has been expended and 3800 violations have been resolved. At the close of FY00, 25 state agencies entered into administrative consent orders that established enforceable timelines to address approximately remaining 1400 non-compliant matters. A year later, 605 of those matters had been resolved, and a large percentage of the remaining items are scheduled to be completed in FY02.

CONCLUSION

The data presented and initiatives described in this report provide an overview of DEPs diverse and robust compliance and enforcement program. In the coming year, the Department will continue to devote resources to maintain the progress made in the key sectors, including: ERP, drinking water, wetlands, NPDES and groundwater dischargers, stationary, area and mobile air pollution sources and MCP compliance. DEP will expand its attention in urban core areas where there are generally more facilities and sources that have not been large enough to fall into the sector categories that are normally targeted under traditional DEP initiatives. This report highlights efforts on illegal transfer stations and smaller sources of toxic air emissions, which demonstrates an expanding commitment by DEP to focus more of our efforts in urban areas.

DEP's successes in the Clean State program show a continued commitment to environmental compliance of the regulated universe independent of the public or private status of the facility operator. This commitment to state agencies will be maintained in FY02, but also extended to municipalities through several different initiatives directed toward improving the long-term compliance picture for the local public sector.

Another consistent objective of the Department's program is to employ compliance and enforcement tools not only to restore compliance in the short term but to also promote environmental stewardship. In FY02, the Department will increase its promotion of self-auditing and environmental management systems through expanded training and sector specific initiatives.

This year's report highlights not only the traditional activity measures of C/E efforts, but also shows how we are expanding our evaluations to determine the "behavioral effect" on our regulated community and the positive environmental results of our C/E activities. With extensive input from outside stakeholders, DEP is using improved measures on the effects of all our regulatory tools and programs including our C/E activities. By focusing more on the impact of our C/E activities we are getting a better understanding of linkages of these activities with other DEP actions like permitting, technical assistance, and regulations and policy development. Focusing more attention on the effect of our C/E efforts also allows us to better plan for and set our C/E priorities.

In the area of compliance measures, DEP intends to expand the collection of compliance information, conduct statistical analysis and publish compliance rates or compliance related information for those facilities, sectors or program components where there is sufficient data to draw meaningful conclusions on performance. As our data management and environmental monitoring capabilities improve and our methodologies are refined, more transparent connections between compliance and enforcement activities, pollution prevention and the environmental quality of the air, water and land will be demonstrated. But as noted above, although compliance and enforcement is the keystone or our regulatory program, it must be integrated into the Department's other functions to achieve comprehensive solutions to the complex environmental challenges the Commonwealth faces.

While strengthening the measurement between compliance and enforcement actions and outcomes is an important objective, "the cop on the beat" presence of an active and visible compliance and enforcement program is important for any regulatory agency. This presence creates a level of deterrence that can positively impact compliance behavior across the regulated universe. Thus, as DEP expands its use of measures that are more result-oriented, we cannot lose sight of the very real, but difficult to measure, deterrence benefits generated through a strong compliance and enforcement program. But even in the absence of a simple measuring rod, evaluating whether this deterrence effect is directed toward the most important environmental problems will ensure that the Department's resources are being effectively deployed.